Index

Note: Page numbers of article titles are in boldface type.

A

AAT protein deficiency, 700–702
Acupuncture and acupressure, for smoking cessation, 852
ADO (Age. Dyspnea, Obstruction) INDEX, 774, 777, 814–815
Air pollution, 715, 795, 853–855
Air trapping, 747
Airway bypass tracts, 832–833
Airway disease
  computed tomography for, 732–733
  magnetic resonance imaging for, 735–736
Alpha-antitrypsin deficiency, 700–702
  phenotype and, 716
  replacement therapy for, 702
Amantadine, 801
Amateur exposures, 857
American hypothesis, 689
American Thoracic Society/European Respiratory Society, 672
Anemia, 719
Antibiotics, 798, 800–801, 820–821
Anticholinergics, 800
Antimuscarinics, 797, 817–820
Antiviral agents, 801
Anxiety, 719–720, 775, 816
Asthma, 674–675, 689–690, 748
Atherosclerosis, 716–717
Autoimmune hypothesis, 689–690
Azithromycin, 779, 798, 820–821

B

B cells, in smoke exposure, 684
Bacterial infections, exacerbations in, 792–795
Baseline Dyspnea Index, 772
BEOCOPD (Boston Early-Onset COPD), 703–705
Beta blockers, 717, 817–819
BICD1 gene, polymorphisms of, 704
Biological lung volume reduction, 831–832
BioLVR technique, 831–832
Biomass smoke, 674–676, 715, 855–856
“Blue bloaters,” 713
BODE index, 754, 774, 776–777, 841–842
Body mass index, 717–718, 771–772
Body plethysmography, for lung volumes, 746
BOLD (Burden of Obstructive Lung Disease), 672–673
Boston Early-Onset COPD (BEOCOPD), 703–705
British hypothesis, 689
Bronchitis, chronic, definition of, 682
Bronchodilator(s), 796, 800, 816–820
Bronchodilator reversibility testing, 748
Bronchoscopic techniques, for pneumoplasty, 828–833
Budesonide, 819
Bullectomy, 834–836
Bupropion, for smoking cessation, 851
Burden of Obstructive Lung Disease (BOLD), 672–673

C
Cachexia, 717–718
Cancer, computed tomography for, 734
Carbon monoxide
  diffusing capacity of, 747
  in air pollution, 853–855
Cardiopulmonary exercise test, 753, 759–760
Cardiovascular disease, 716–717
CHARGE Consortium studies, 705–706
Chemokines, in smoke exposure, 686–687
CHRNA 3/5 nicotinic receptor, 690, 704–705
Chronic bronchitis, definition of, 682
Chronic obstructive pulmonary disease
  as worldwide problem, 671–680
  comorbidities in, 716–721, 815–816
  definition of, 674
  environmental factors in. See Environmental factors; Smoke.
  epidemiology of, 672–673
  evaluation of, 729–743, 812–816
  exacerbations of, 789–809, 854
  exercise for. See Exercise.
  future of, 676
  genetic factors in. See Genetic factors.
  host factors in, 715–716
  hypotheses concerning, 688–690
  in developing countries, 675–676
  mortality in, 672–673, 676, 839–840, 854
  outcomes of, 767–787
  pathobiology of, 681–698, 700–701
  pathophysiology of, 827–828
  phenotypes of, 682–683, 700–702, 713–727
  pulmonary function testing for, 745–752
  risk factors for. See Risk factors.
  severity of, 748–749, 812–816
  smoke and. See Smoke.
spirometry for. See Spirometry.
treatment of
  exercise for, 760–763
goals of, 816
  in alpha-antitrypsin deficiency, 702
  integrated approach to, 811–826
medical, 816–821
spirometry in, 749–751
techniques for, 827–849

Chronic Respiratory Disease Questionnaire, 771
Cigarette smoking. See Smoke.
Clean Air Act of 1970, 854
Cocaine, smoking of, 858
Cognitive dysfunction, 720
Colonization, bacterial, 793
Comorbidities, 716–721, 815–816
Computed tomography, 730–734
Cooking fuels, smoke from, 674–676, 715, 855–856
COPD. See Chronic obstructive pulmonary disease.
COPD Assessment Test, 813
COPD Gene Study (Genetic Epidemiology of COPD Study), 703–705, 716
COPD Severity Score, 774, 777
Corticosteroids, 776, 778, 796–797, 801–802
Counseling, on smoking cessation, 850–851
C-reactive protein, 717
Cytochrome-450, in tobacco smoke metabolism, 683–684

D
Degree of Airflow Obstruction and Dyspnea, and Exercise Capacity (BODE) index and
  modified BODE index, 777
Density mask analysis, 730–731
Depression, 719–720, 775, 816
Developing countries, biomass smoke in, 674–676
Diabetes mellitus, 718–719
Diffusing capacity of the lung for carbon monoxide, 747
Disease management programs, 780
DNA methylation, 706
DOSE index, 814–815
Dust exposures
  in amateur activities, 857
  occupational, 856–857
Dutch hypothesis, 688–689

E
ECLIPSE (Evaluation of COPD Longitudinally to Identify Predictive Surrogate
  Endpoints), 703–705, 756
Elastases, imbalance of, 700–701
Electrostimulation, for smoking cessation, 852
Emphysema
   classification of, 730
   computed tomography for, 730–732
   definition of, 682
   structural damage in, 687–688
End expiratory lung volume, 813–814
Endobronchial valves, 828–831
Endurance shuttle walk test, 753, 758–759
Enterobacteriaceae infections, exacerbations in, 792–795
Environmental factors, 713–717, 792
   amateur exposures, 857
   biomass smoke, 674–676, 715, 855–856
   illicit inhalations, 857–858
   in exacerbations, 795
   occupational exposures, 856–857
   phenotypes and, 714–715
Epidemiologic Study of COPD (IBERPOC), 673
Epidemiology, 672–673
Epigenetic factors, 716
Epithelial cells, in smoke exposure, 684, 686–688
Erythromycin, 798
European Lung White Book, 672
EuroQol 5D, 770, 772
Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints (ECLIPSE), 703–705, 756
Exacerbations, 789–809
   air pollution causing, 854
   clinical features of, 789
   environmental factors in, 795
   frequent, 789–790
   history of, 815
   in bacterial infections, 792–795
   in viral infections, 790–792
   prevention of, 795–796
   quality of life with, 775–776
   treatment of
      nonpharmacologic, 799–803
      palliative, 803
      pharmacologic, 796–799
Exercise, 753–766
   for smoking cessation, 852
   testing of, 753–760, 813–814
      bullectomy effects on, 836
      cardiopulmonary exercise test, 753, 759–760
      shuttle walk test, 753, 758–759
      six-minute walk test, 753–757
      stair climbing, 753, 757–758
      therapeutic, 760–763
Exhale Airway Stents for Emphysema (EASE) trial, 833
Exome sequencing, 706
F

FAM13A gene, polymorphisms of, 704–705
Family Heart Study, 705
Fluticasone, 778, 796–797, 818–819
Forced expiratory volume in 1 second, 746–751, 754, 812
Forced vital capacity, 746–749
Formoterol, 818–819
Fuels, smoke from, 674–676, 715, 855–856
Fume exposures, occupational, 856–857
Functional residual capacity, 746

G

GARD (Global Alliance Against Chronic Respiratory Diseases), 672
Gas exposures, occupational, 856–857
Gastroesophageal reflux disease, 719
GBD (Global Burden of Disease) studies, 672–673
Gel therapy, 831–832
Gender differences, 715–716
Genetic Epidemiology of COPD Study (COPD Gene Study), 703–705
Genetic factors, 682–683, 699–711, 849
  alpha-antitrypsin deficiency, 700–702
  genome-wide association studies, 688, 690–691, 702–706
Global Alliance Against Chronic Respiratory Diseases (GARD), 672
Global Burden of Disease (GBD) studies, 672–673
Global Initiative for Chronic Obstructive Lung Disease. See GOLD,
GOLD (Global Initiative for Chronic Obstructive Lung Disease), 672
  COPD stages of, 715, 774, 816–818
  spirometry guidelines of, 747–750, 754

H

Haemophilus hemolyticus infections, 792–795
Haemophilus influenzae infections, exacerbations in, 792–795
Haemophilus parainfluenzae infections, 792–795
Health 2000 Study, 705–706
Health Utility Index, 770, 772
Health-related quality of life
  definition of, 768
  measurement of, 768–770
    COPD impact on, 775–776
    disease-specific, 770, 774–775
    interventions affecting, 776, 778–781
    patient preferences in, 770–772
Hedgehog interaction protein, 690–691
HHIP gene, polymorphisms of, 704–705
Histone deacetylase-2 inhibitors, 798–799
Host factors, phenotypes and, 715–716
HUI (Health Utility Index), 770, 772
Hyperinflation, 747, 813–814, 828
Hyperpolarized gases, for MRI, 734
Hypnotherapy, for smoking cessation, 851

I
IBERPOC (Epidemiologic Study of COPD), 673
ICGN (International COPD Genetics Network), 702–705
Imaging, 729–743
  computed tomography, 730–734
  magnetic resonance imaging, 735–737
  optical coherence tomography, 737–738
  positron emission tomography, 737
Immune response, 684–686
Immunization, nicotine, 851
Indacaterol, 818
Inflammation, mechanisms of, 685–688
Influenza
  exacerbations in, 792
  vaccination for, 796
Inhaled Steroids in Obstructive Lung Disease in Europe (ISOLDE) trial, 776, 778, 796–797
Inspiratory capacity, 814
Insulin resistance, 718–719
Interferons, in smoke exposure, 685
Interleukins, in smoke exposure, 685
International COPD Genetics Network (ICGN), 702–705
International Primary Care Research Group (IPCRG), 672
International Society of Heart and Lung Transplantation guidelines, 840–841
Interstitial lung abnormalities, 732
IPCRG (International Primary Care Research Group), 672
Iron deficiency anemia, 719
ISOLDE (Inhaled Steroids in Obstructive Lung Disease in Europe), 776, 778

L
Laser therapy, for smoking cessation, 852
Lipopolysaccharide, in smoke exposure, 686–687
Long-acting bronchodilators, 796–797, 816–820
Lower limit of normal, in spirometry, 748
Lung
  microbiome of, 716
  transplantation of, 782, 840–844
  volume reduction of, 827–847. See also Lung volume reduction surgery.
    biological, 831–832
    bullectomy in, 834–836
    medical pneumoplasty for, 828–833
    pathophysiologic basis for, 827–828
Lung allocation score, 842
Lung Health Study, 714–715, 850, 856
Lung Tissue Research Consortium, 732
Lung volume reduction surgery, 780–782, 799, 837–840
   description of, 837
   long-term effects of, 838–839
   patient selection for, 837–838
   postoperative morbidity and mortality in, 839–840
Lung volumes, measurement of, 746–747

M
M variant, of AAT protein, 700–701
MACRO (Macrolide Azithromycin to Prevent Rapid Worsening of Symptoms Associated
   with Chronic Obstructive Pulmonary Disease), 779
Macrolides, 798, 820–821
Macrophages, in smoke exposure, 684–685
Magnetic resonance imaging, 735–737
Major histocompatibility complex, in smoke exposure, 684–685
Marijuana smoking, 857–858
Matrix metalloproteinases, in smoke exposure, 685–686, 689–691
Mechanical ventilation, 799, 802–803
Medical Outcomes Study SF Health Survey, 771, 774
Medical pneumoplasty, 828–833
Metabolic syndrome, 718–719
Methylxanthines, 820
Mine Safety and Health Administration, 857
Modified Medical Research Council questionnaire, 750, 772, 813
Molecular analysis, for bacteria, 793–794
Monocytes, in smoke exposure, 684
Moraxella catarrhalis infections, exacerbations in, 792–795
Mortality
   after lung volume reduction surgery, 839–840
   air pollution and, 854
   in COPD, 672–673, 676
Moxifloxacin, 798, 821
MUC5 proteins, in smoke exposure, 686
Mucolytics, 798
Mucus, hypersecretion of, 686
Multi Ethnic Study of Atherosclerosis, 734
Musculoskeletal disease, 717–718
Myocardial ischemia, 716–717

N
National Emphysema Treatment Trial (NETT), 702–704, 715–716, 776, 780–782
National Health and Nutrition Examination Survey (NHANES), 674, 715
National Lung Screening Trial, 734
Nebulized bronchodilators, 800
NETT (National Emphysema Treatment Trial), 702–704, 715–716, 776, 780–782
Network for Organ Sharing, 842
Neuropsychiatric disorders, 719–720
Neutrophil(s), in smoke exposure, 686–687
Neutrophil elastase, imbalance of, 700–701
NHANES (National Health and Nutrition Examination Survey), 674, 715
NICE (United Kingdom National Institute for Health and Clinical Excellence), 672, 674
Nicotine, 683
  immunization against, for smoking cessation, 851
  in replacement therapy, 851
Nicotinic receptors, 690–691, 704
Nitrogen dioxide, in air pollution, 853–855
Nocturnal Oxygen Therapy (NOTT), 779
Normative Aging Study, 703–705
NOTT (Nocturnal Oxygen Therapy), 779
Nottingham Health Profile, 771
Nurses Health Study, 718–719
Nutrition, phenotypes and, 715

O
Obstructive sleep apnea, 720–721
Occupational exposures, 856–857
Optical coherence tomography, 737–738
OPTIMAL study, 797
Osteoporosis, 718
Outcomes. See Patient-reported outcomes.
Overlap syndrome, 720–721
Oxidative stress, in smoke exposure, 686
Oxygen therapy, 779, 799, 802
Ozone, in air pollution, 853–855

P
p38 mitogen-activated protein kinase inhibitors, 799
Palliative care, 803
Parenchymal disease
  computed tomography for, 730–732
  magnetic resonance imaging for, 735
Pathobiology, 681–698, 700–701
Patient education, 799–800
Patient-reported outcomes, 767–787. See also Health-related quality of life.
  definition of, 768
  interpretation of, 773
  interventions affecting, 776, 778–781
  patient preferences in, 770–772
  predictive models for, 773–777
  types of, 768
  versus physiologic measures, 774–775
Phenotypes, 682–683, 700–702, 713–727
  comorbidities and, 716–721
  definition of, 714
  environmental factors in, 714–715
  frequent exacerbator, 789–890
  host factors and, 715–716
  iterative process for, 714
  treatment based on, 721
Phosphodiesterase inhibitors, 797–798, 820
“Pink puffers,” 713
PLATINO (Proyecto Latinamericano de Investigación en Obstrucción Pulmonar), 672–673
Pneumoplasty, medical, 828–833
Positron emission tomography, 737
Preventive measures
  air pollution reduction, 853–855
  amateur activity considerations, 857
  biomass smoke control, 855–856
  for exacerbations, 795–796
  illicit inhalation regulation, 857–858
  occupational exposure restrictions, 856–857
  smoking ban regulation, 852–853
  smoking cessation, 850–851
Protease-antiprotease hypothesis, 689
Proyecto Latinamericano de Investigación en Obstrucción Pulmonar (PLATINO), 672–673
Pseudomonas aeruginosa infections, exacerbations in, 792–795
Psychiatric disorders, 719–720
Pulmonary function tests, 745–752, 754. See also Spirometry.
  components of, 746–747
Pulmonary rehabilitation, 760–763, 779–780, 799, 821

Q
Quality of Well-Being Scale, 770, 772
Quality-adjusted life-years, 770

R
Randomized Exposure Study of Pollution Indoors and Respiratory Effects (RESPIRE) trial, 855–856
Rehabilitation, pulmonary, 760–763, 779–780, 799, 821
Residual volume, 746
Respiratory syncytial virus infections, exacerbations in, 792
RESPIRE (Randomized Exposure Study of Pollution Indoors and Respiratory Effects) trial, 855–856
Rhinovirus infections, exacerbations in, 790–791
Risk factors, 674–675, 714–715, 849–867. See also Environmental factors;
  Genetic factors; Smoke.
  air pollution, 715, 795, 853–855
  amateur exposures, 857
  biomass smoke, 674–676, 715, 855–856
  illicit inhalations, 857–858
  occupational exposures, 856–857
Roflumilast, 721, 798, 820

S
S variant, of AAT protein, 700–701
Salmeterol, 778, 796–797, 818–819
Second hand smoke, 675, 714, 852–853
SEPAR/ALAT (Sociedad Española de Neumología y Cirugía Torácica/Asociación Latinoamericana del Tórax), 672
SERPINA1 (PI) gene, polymorphisms of, 700–702
SGRQ (St. George’s Respiratory Questionnaire), 768, 771, 775–778, 780–782, 813
Short Form Health Survey-36, 770, 776
Shuttle walk test, 753, 758–759
Sickness Impact Profile (SIP), 770–771
Six-minute walk test, 753–757
Sleep apnea, 720–721
Small airway disease, definition of, 682
Smoke
  biomass, 674–676, 715
  marijuana, 857–858
  tobacco
    alpha-antitrypsin deficiency and, 700–701
    as risk factor, 674–676
    cessation measures for, 850–852
    passive, 675, 714, 852–853
    phenotypes and, 714–715
    properties of, 683
Sociedad Española de Neumología y Cirugía Torácica/Asociación Latinoamericana del Tórax (SEPAR/ALAT), 672
Spirometry, 745–752, 754
  description of, 746
  diagnostic use of, 745–746
  for COPD definition, 674
  for phenotype determination, 705–706
  for screening, 675
Sputum, characteristics of, 792–793
16S-rRNA techniques, for bacterial identification, 793–794
St. George’s Respiratory Questionnaire (SGRQ), 768, 771, 775–778, 780–782, 813
Stair climbing test, 753, 757–758
Standard Gamble, 770, 772
Staphylococcus aureus infections, exacerbations in, 792–795
Statins, 717
Strain changes, in bacteria, exacerbations in, 794–795
Streptococcus pneumoniae infections
  exacerbations in, 792–795
  vaccination for, 796
Sulfur dioxide, in air pollution, 853–855

T
t cells, in smoke exposure, 684–685
Textural analysis, 731–732
Theophyllines, 797–798, 802, 820
Time-Trade-Off, 770
Tiotropium, 778–779, 819–820
Tobacco smoking. See Smoke.
Toll-like receptors, in smoke exposure, 685–687
TORCH (Toward a Revolution in COPD Health) trial, 778–779, 796–797, 819
Total lung capacity, 746–747
Toward a Revolution in COPD Health (TORCH) trial, 778–779, 796–797, 819
Transplantation, lung, 782, 840–844
Treatment methods. See Chronic obstructive pulmonary disease, treatment of.
Triple combination therapy, 797
Tucson Epidemiologic Study of Airways Obstructive Disease, 756

U
UCSD SOBQ (University of California San Diego Shortness of Breath Questionnaire), 772, 774, 780–781
Understanding the Potential Long-Term Impacts on Function with Tiotropium (UPLIFT) trial, 778–779
United Kingdom National Institute for Health and Clinical Excellence (NICE), 672, 674
University of California San Diego Shortness of Breath Questionnaire, 772, 774, 780–782
UPLIFT (Understanding the Potential Long-Term Impacts on Function with Tiotropium) trial, 778–779
Utility instruments, 770

V
Vaccines
for infections, 796
for nicotine, 851
Valve(s), endobronchial, 828–831
Valve for Emphysema Palliation Trial (VENT), 830–831
Varenicline, for smoking cessation, 851
Vascular remodeling
computed tomography for, 733–734
magnetic resonance imaging for, 736–737
VENT (Valve for Emphysema Palliation Trial), 830–831
Ventilatory support, 799, 802–803
Viral infections, exacerbations in, 790–792, 795
Visual Analog Scale, 770, 772
Vitamin deficiencies, phenotypes and, 715

W
Wall area, in airway disease, 732
Willingness To Pay, 770
Women’s Health Study, 718–719
Workplace exposures, 856–857
World Health Organization
on air pollution, 854
quality of life definition of, 768
World Trade Center collapse, respiratory symptoms due to, 856–857
Z
Z variant, of AAT protein, 700–701
Zanamivir, 801
Zephyr endobronchial valve, 828–831